Chem-Impex International Inc.

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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	33871
NAME:	Boronal
SYNONYMS:	2-Methyl-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2-butenal 2,6,6-Tetramethyl-1-cyclohexene-1-crotonaldehyde
24 HOUR EMERGENCY	(800) 535-5053(USA)
TELEPHONE:	352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

ACUTE TOXICITY, ORAL (CATEGORY 5), H303 ACUTE TOXICITY, DERMAL (CATEGORY 5), H313 SENSITIZATION, SKIN (CATEGORY 1), H317 HAZARDOUS TO THE AQUATIC ENVIRONMENT, ACUTE HAZARD (CATEGORY 1), H400 HAZARDOUS TO THE AQUATIC ENVIRONMENT, LONG-TERM HAZARD (CATEGORY 1), H410

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

SIGNAL WORD

PICTOGRAM

WARNING

HAZARD STATEMENT(S)

MAY BE HARMFUL IF SWALLOWED OR IN CONTACT WITH SKIN
MAY CAUSE AN ALLERGIC SKIN REACTION
VERY TOXIC TO AQUATIC LIFE
VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.
FATEMENT(S)
CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE
AVOID RELEASE TO THE ENVIRONMENT.
WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.
IF ON SKIN: WASH WITH PLENTY OF WATER.
CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL.
IF SKIN IRRITATION OR A RASH OCCURS: GET MEDICAL ADVICE/ATTENTION.
TAKE OFF CONTAMINATED CLOTHING AND WASH IT BEFORE REUSE
COLLECT SPILLAGE
STORE AWAY FROM INCOMPATIBLE MATERIALS.
DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.
AFTER PROLONGED CONTACT WITH HIGHLY POROUS MATERIALS, THIS PRODUCT MAY SPONTANEOUSLY COMBUST.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CLASSIFICATION	CONCENTDATION
HAZARDOUS COM	PONENTS	
PURITY:	90 - 100% (GC)	
CAS-NO.	3155-71-3	
MW:	206.32	
MF:	C ₁₄ H ₂₂ O	

COMPONENT	CLASSIFICATION	CONCENTRATION

Boronal		
	-	-
FOR THE FULL TEXT OF	THE H-STATEMENTS MENTIONED I	N THIS SECTION, SEE SECTION
16.		

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
IF INHALED	IF BREATHING IS DIFFICULT, REMOVE TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. FOR BREATHING DIFFICULTIES, OXYGEN MAY BE NECESSARY. CALL A PHYSICIAN IF SYMPTOMS DEVELOP OR PERSIST.
IN CASE OF SKIN CONTACT	TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS. WASH SKIN THOROUGHLY WITH SOAP AND WATER FOR SEVERAL MINUTES.
IN CASE OF EYE CONTACT	REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS. PROMPTLY WASH EYES WITH PLENTY OF WATER WHILE LIFTING THE EYE LIDS.
IF SWALLOWED	CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. IF SWALLOWED, RINSE MOUTH WITH WATER (ONLY IF THE PERSON IS CONSCIOUS). DO NOT INDUCE VOMITING. IF VOMITING OCCURS, THE HEAD SHOULD BE KEPT LOW SO THAT STOMACH VOMIT DOESN"T ENTER THE LUNGS.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	MAY CAUSE AN ALLERGIC SKIN REACTION. DERMATITIS. RASH.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	SUITABLE EXTINGUISHING MEDIA WATER SPRAY, FOG, CO2, DRY CHEMICAL, OR ALCOHOL RESISTANT FOAM.
	UNSUITABLE EXTINGUISHING MEDIA DO NOT USE A SOLID WATER STREAM AS IT MAY SCATTER AND SPREAD FIRE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	FIRE MAY PRODUCE IRRITATING, CORROSIVE AND/OR TOXIC GASES. POROUS MATERIAL SUCH AS RAGS, PAPER, INSULATION, OR ORGANIC CLAY MAY SPONTANEOUSLY COMBUST WHEN WETTED WITH THIS MATERIAL.
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY. MOVE CONTAINERS FROM FIRE AREA IF YOU CAN DO SO WITHOUT RISK. WATER RUNOFF CAN CAUSE ENVIRONMENTAL DAMAGE. VENTILATE CLOSED SPACES BEFORE ENTERING THEM. KEEP RUN-OFF WATER OUT OF SEWERS AND WATER SOURCES. DIKE FOR WATER CONTROL.
FURTHER INFORMATION	USE WATER SPRAY TO COOL UNOPENED CONTAINERS. STATIC CHARGES GENERATED BY EMPTYING PACKAGE IN OR NEAR FLAMMABLE VAPOR MAY CAUSE FLASH FIRE.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS.
	FOR PERSONAL PROTECTION SEE SECTION 8.
ENVIRONMENTAL PRECAUTIONS	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.
METHODS AND MATERIALS FOR	CONTAIN SPILLAGE, AND THEN COLLECT WITH AN ELECTRICALLY PROTECTED VACUUM CLEANER OR BY

CONTAINMENT AND CLEANING UP	WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE SECTION 13).
REFERENCE TO OTHER SECTIONS	FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOUR OR MIST. KEEP AWAY FROM SOURCES OF IGNITION NO SMOKING.TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE.
	FOR PRECAUTIONS SEE SECTION 2.2.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	DO NOT STORE IN DIRECT SUNLIGHT. KEEP CONTAINER CLOSED. HANDLE CONTAINERS WITH CARE. OPEN SLOWLY IN ORDER TO CONTROL POSSIBLE PRESSURE RELEASE. STORE IN A COOL, WELL-VENTILATED AREA. KEEP UNDER A NITROGEN BLANKET.
	Store at 0 - 8 °C
SPECIFIC END USE(S)	APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH	CONTAINS NO SUBSTANCES WITH OCCUPATIONAL
WORKPLACE CONTROL	EXPOSURE LIMIT VALUES.
PARAMETERS	

EXPOSURE CONTROLS

APPROPRIATE	USE EXPLOSION-PROOF VENTILATION EQUIPMENT TO STAY
ENGINEERING CONTROLS	BELOW EXPOSURE LIMITS. ADEQUATE VENTILATION
	SHOULD BE PROVIDED SO THAT EXPOSURE LIMITS ARE
	NOT EXCEEDED.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTIONFACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR
EYE PROTECTION TESTED AND APPROVED UNDER
APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH
(US) OR EN 166(EU).

SKIN PROTECTION	HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE"S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.
BODY PROTECTION	COMPLETE SUIT PROTECTING AGAINST CHEMICALS, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
RESPIRATORY PROTECTION	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE RESPIRATOR WITH MULTIPURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).
CONTROL OF ENVIRONMENTAL EXPOSURE	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear, colorless to yellow liquid
ODOUR	CHARACTERISTIC
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	
POINT/FREEZING POINT	
BOILING POINT	296 - 298 °C (Lit.)
FLASH POINT	> 93 °C
EVAPOURATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID,	NO DATA AVAILABLE
GAS)	
UPPER/LOWER	NO DATA AVAILABLE
FLAMMABILITY OR	
EXPLOSIVE LIMITS	
VAPOUR PRESSURE	0.001 MM HG AT 25 C
VAPOUR DENSITY	7.2

RELATIVE DENSITY	
WATER SOLUBILITY	INSOLUBLE
PARTITION COEFFICIENT:	NO DATA AVAILABLE
N- OCTANOL/WATER	
AUTO-IGNITION	NO DATA AVAILABLE
TEMPERATURE	
DECOMPOSITION	NO DATA AVAILABLE
TEMPERATURE	
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NOT EXPLOSIVE
OXIDIZING PROPERTIES	NOT OXIDIZING

OTHER SAFETY INFORMATION

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	THE PRODUCT IS STABLE AND NON-REACTIVE UNDER NORMAL CONDITIONS OF USE, STORAGE AND TRANSPORT
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DANGEROUS REACTION KNOWN UNDER CONDITIONS OF NORMAL USE.
CONDITIONS TO AVOID	POROUS MATERIAL SUCH AS RAGS, PAPER, INSULATION, OR ORGANIC CLAY MAY SPONTANEOUSLY COMBUST WHEN WETTED WITH THIS MATERIAL.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	NO HAZARDOUS DECOMPOSITION PRODUCTS IF STORED AND HANDLED AS INDICATED. IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	LD50 ORAL RAT - > 2000 MG/KG
	INHALATION: NO DATA AVAILABLE
	LD50 DERMAL RABBIT - > 2000 MG/KG
	NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	MAY BE HARMFUL IN CONTACT WITH SKIN. CAUSES MILD SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION.
SERIOUS EYE DAMAGE/EYE IRRITATION	CAUSES MILD EYE IRRITATION.
RESPIRATORY OR SKIN SENSITISATION	MAY CAUSE AN ALLERGIC SKIN REACTION.
GERM CELL MUTAGENICITY	NO DATA AVAILABLE
CARCINOGENICITY IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN
ACGIH:	CARCINOGEN BY IARC. NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE

ADDITIONAL INFORMATION MAY CAUSE AN ALLERGIC SKIN REACTION. DERMATITIS. RASH.

RTECS: NOT AVAILABLE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
OTHER ADVERSE EFFECTS	NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCTOFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO
A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED
PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE
OF THIS MATERIAL.CONTAMINATED
PACKAGINGDISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)	
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
	N.O.S.(Boronal)
UN NUMBER:	3082
CLASS:	9
PACKING GROUP:	III
MARINE POLLUTANT	YES
IMDG	
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Boronal)
PROPER SHIPPING NAME: UN NUMBER:	
	N.O.S.(Boronal)
UN NUMBER:	N.O.S.(Boronal) 3082
UN NUMBER: CLASS:	N.O.S.(Boronal) 3082 9
UN NUMBER: CLASS: PACKING GROUP:	N.O.S.(Boronal) 3082 9 III

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS		TERIAL ARE SUBJECT TO THE S OF SARA TITLE III, SECTION
SARA 313 COMPONENTS	THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.	
SARA 311/312 HAZARDS	YES	
MASSACHUSETTS RIGHT T	O KNOW COMPONENTS	
	CAS #	REVISION DATE
Boronal	3155-71-3	
PENNSYLVANIA RIGHT TO	KNOW COMPONENTS	
	CAS #	REVISION DATE
Boronal	3155-71-3	
NEW JERSEY RIGHT TO KN	NOW COMPONENTS	
	CAS #	REVISION DATE
Boronal	3155-71-3	
CALIFORNIA PROP. 65 COMPONENTS	THIS PRODUCT DOES NOT C KNOWN TO STATE OF CALIF BIRTH DEFECTS, OR ANY OT	

SECTION 16. OTHER INFORMATION

	CMENTS REFERRED TO UNDER SECTIONS 2 AND 3.
H303 + H313	MAY BE HARMFUL IF SWALLOWED OR IN CONTACT WITH
	SKIN
H317	MAY CAUSE AN ALLERGIC SKIN REACTION
H400	VERY TOXIC TO AQUATIC LIFE
H410	VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING
	EFFECTS.
HMIS RATING	_
HEALTH HAZARD:	2
CHRONIC HEALTH HAZA	
FLAMMABILITY:	1
PHYSICAL HAZARD	0
NFPA RATING	
HEALTH HAZARD:	2
FIRE HAZARD:	1
REACTIVITY HAZARD:	0
REACTIVITT HAZARD:	0
MSDS LEGEND	
MW: MO	LECULAR WEIGHT
	LECULAR FORMULA
	LATILE ORGANIC COMPOUNDS
ACGIH: AM	ERICAN CONFERENCE OF GOVERNMENENTAL INDUSTRIAL
HY	GINISTS
CAS: CHI	EMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA: OCO	CUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL: PEF	RMISSIBLE EXPOSURE LIMIT (OSHA)
TLV: THE	RESHOLD LIMIT VALUE (ACGIH)
IMPORTANT:	
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INFORMATION CURRENTL	Y AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF
MERCHANTABILITY OR AN	Y OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO
SUCH INFORMATION, AND	WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS
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